WHAT IS CLAIMED IS:

1. A tire whose tread comprises at least a first tread element and at least one second tread element, each of said tread elements having a contact surface that, during normal operation of a vehicle wheel equipped with the tire, comes into contact with the ground in a contact area on each revolution of the tire, the first tread element being configured such that, at least within a range of rolling conditions to be monitored, the contact surface thereof slides relative to the ground during its passage through the contact area, the said tire comprising means that constitute a sensor within the said first tread element which is sensitive at least to a tangential force in the contact surface of the first tread element during its passage through the contact area.

2. A tire according to claim 1, in which the first tread element is made of a material different from that of which the second tread element is made and which confers to the first tread element an adherence potential lower than that of the second tread element.

3. A tire according to claim 1, in which the first tread element is made of a material different from the material of which the second tread element is made and which confers to the first tread element a wear resistance better than that of the second tread element.

4. A tire according to claim 1, in which the first tread element is made of a material having a Young's modulus higher than the Young's modulus of the material of which the second tread element is made.

5. A tire according to claim 1, in which the contact surface of the first tread element is located at a distance from the wheel axle that is less than the distance of the contact surface of the second tread element from the wheel axle.

6. A tire according to claim 1, in which said tread further comprises means that constitute a sensor within the second tread element which is sensitive at least to a tangential force in the contact surface of the second tread element during its passage through the contact area.

7. A tire according to claim 1, in which the first tread element, viewed at the surface of the tread, has a central zone surrounded by an encircling zone, said sensor being disposed so as to achieve a measurement in the central zone and being sensitive to at least one tangential force exerted at the surface of the central zone.

8. A tire according to claim 7, in which the surface area of the central zone is at least substantially equivalent to the surface area of the encircling zone.

9. A tire according to claim 7, in which, L_r being the length of the first tread element in the preferred rolling direction, L_g being the length of the first tread element in the direction perpendicular to the preferred rolling direction, L_1 being the length of the central zone in the preferred rolling direction, L_2 being the length of the central zone in the direction perpendicular to the preferred rolling direction, d_r being the minimum length measurable on the encircling zone in the preferred rolling direction, dg being the minimum length measurable on the encircling zone in the direction perpendicular to the preferred rolling direction, the following relations are obeyed: $dr > Lr/10$, $dg > Lg/10$, $Lr/5 < L1 < 4Lr/5$ and $Lg/5 < L2 < 4Lg/5$.

10. A tire according to claim 7, in which the center of mass of the first tread element is in the central zone.

11. A tire according to claim 7, in which the central zone has a resistance to a force directed perpendicular to the surface of the tread which is less than the resistance to a force directed perpendicular to the surface of the tread offered by the encircling zone.

12. A tire according to claim 7, in which a thin recess strip relieves of stress the material situated radially beneath the surface of the central zone as compared with the adjacent material situated beneath the encircling zone.

13. A tire according to claim 7, in which a plurality of cutouts in the shape of wells are molded into the central zone.

14. A tire according to claim 13, in which the cutouts are at least partially inclined.

15. A tire according to claim 7, in which the Young's modulus of the material situated beneath the central zone is smaller than the Young's modulus of the adjacent material situated beneath the encircling zone.

16. A tire according to claim 12, in which the thickness of the thin strip is approximately 0.3 mm to 2 mm.

17. A tire according to claim 15, in which the thin strip is at least partially inclined.

18. A tire according to claim 1, in which the tread includes sufficient first tread elements to ensure that there is always at least one first tread element in the contact zone with the ground during each revolution of the tire.

19. A tire according to claim 19, in which the sensor is embedded in the wall of the tire.

20. A tire according to claim 19, in which the sensor is arranged radially inside of the tread intended to become worn during the use of the tire.

21. A tire according to claim 1, in which the sensor comprises a device or devices with Hall effect.

22. A method for the detection of an adherence characteristic between a tire with a deformable tread and a surface along which it is rolling, comprising the steps of:

a) providing in the tread at least one first measuring element and at least one second element, each said tread element having a contact surface with the ground, the contact surface of the first measuring element being configured such that, during normal operation of a vehicle wheel equipped with the tire, the surfaces of the first and second elements come into contact with the ground on each revolution of the tire and, at least within a range of rolling conditions to be monitored, the contact surface of the first element slides relative to the ground during its passage through the contact area;

b) generating a first signal that represents a tangential force in the contact surface of the first measuring element;

c) detecting a variation of the first signal that characterizes a loss of adherence;

d) producing an estimate of the friction potential in the contact surface of the first measuring element; and

e) producing an estimate of adherence potential of the tire.

23. A method according to claim 22, in which:

step c) comprises

1) generating a second signal representing a vertical force in the contact surface of the first measuring element;

2) producing from the first and second signals a third signal representing the ratio between the tangential and vertical forces; and

3) detecting a variation of the third signal that characterizes a loss of adherence;

step d) comprises producing an estimate of the friction potential based upon the detection of step c) 3); and

step e) comprises producing an estimate of the adherence potential based upon the frictional potential estimated in step d).

24. A method according to claim 22 or 23, further comprising the steps of:

f) generating a first operational tread signal representing a tangential force in a zone of the contact surface of the at least one second element;

g) generating a second operational tread signal representing a vertical force in a zone of the contact surface of the at least one second element;

h) producing an indication that characterizes the tangential force applied to the tire, by integration of the first operational tread signal between the instants when the contact of said zone with the ground begins and ends, and across the full width of the tire;

i) producing an indication that characterizes the vertical force applied to the tire, by integration of the second operational tread signal between the instants when the contact of said zone with the ground begins and ends, and across the full width of the tire; and

j) determining the available adherence margin as the difference between the tire's adherence potential and the ratio between the tangential and vertical forces applied to the tire.

25. A method for detecting an adherence characteristic between a tire with a deformable tread and a surface over which it is rolling, comprising the steps of:

a) providing in the tread at least one first measuring element and at least one second element, each said tread element having a contact surface with the ground, the contact surface of the first tread element being configured such that, during normal operation of a vehicle

wheel equipped with the tire, the surfaces of the first and second elements come into contact with the ground on each revolution of the tire and, at least within a range of rolling conditions to be monitored, the contact surface of the first measuring element slides relative to the ground during its passage through the contact area;

b) generating a first signal representing a tangential force in the zone of the contact surface of the first measuring element;

c) detecting in the first signal the instant when the first measuring element enters the contact area;

d) detecting in the first signal the instant when the first signal undergoes a variation that characterizes a loss of adherence; and

e) producing an indication that characterizes an available adherence margin from a function of the first signal between the instant when entry into the contact area is detected and the instant when said characteristic variation is detected.

26. A method according to claim 25, in which the function of the first signal is the ratio between the mean value of the first derivative of the first signal relative to the time and the value of the first signal at the instant that characterizes the loss of adherence.

27. A detection method according to claim 25, in which the function of the first signal is the time interval separating said detections of steps c) and d).

28. A method according to claim 22 or 25, wherein:

the first measuring element of step a), viewed at the surface of the tread, has a central zone surrounded by an encircling zone, the central zone being arranged to slide over the ground with a level of stress parallel to the surface of the ground which is substantially weaker than the level of stress parallel to the surface of the ground beyond which the encircling zone will slide over the

ground; and

the sensor of step b) is arranged to achieve a measurement in the central zone, the sensor being sensitive to at least one parameter reflecting a tangential force exerted at the surface of the central zone.

29. A method according to claim 22 or 25, wherein the contact surface of the first measuring element is located at a distance from the wheel axle that is less than the distance of the contact surface of the second tread element from the wheel axle.